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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HEWLETT-PACKARD COMPANY  
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EXAMINER

CORBETT, MITCHELL

ART UNIT

PAPER NUMBER

2614

DATE MAILED: 05/05/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/760,242

Applicant(s)

DAVIDSON, ROBERT J.

Examiner

Mitchell J Corbett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see section labeled "Claim Rejections under 35 U.S.C. §112", page 8-9, filed 2/20/04, with respect to the rejections of claims 1-4, 7, 9, 10, 13-15, 17, and 18 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Cantone (of record), Beckett (Beckett, Jamie, "Making Room for Digital Data", <http://www.hpl.hp.com/news/storage.html>, November 4, 1999), Yamagata et al. (Yamagata) (US 4,908,793), and others as described below.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantone (of record) in view of Beckett.

Considering claim 1, Cantone discloses a system and method of storing electronically readable movie data into a video storage module (see digital

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videocassette 10, column 2, lines 55-60) and recalling selectively the video data from the storage module into a playback device (see VCR, column 2 lines 60-62) for viewing by a user (column 2, lines 62-65).

Cantone fails to specifically disclose said storage module including an atomic resolution storage memory, as recited in the claim.

In an analogous art, Beckett discloses an information storage device consisting of an atomic resolution storage component (page 1, paragraphs 5-6), wherein said storage device is capable of storing digitized media (see DVD storage, page 1, paragraph 5), for the advantage of providing a compact and low-power method of storing massive amounts digitized media (page 1, paragraph 2).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Cantone whereby said storage module includes an atomic resolution storage memory, as taught by Beckett, for the advantage of providing a compact and low-power method of storing massive digitized media in a digital entertainment system.

Considering claim 4, the combined methods of Cantone and Beckett disclose a method of repeatedly storing additionally electronically readable movies into the memory component of the storage module (Cantone, column 3, lines 56-59).

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantone in view of Beckett, as applied to claim 1 above, and further in view of Allen (of record).

Considering claim 2, although Cantone and Beckett disclose a method of storing and recalling electronically readable movies into and from the memory component of a personal movie storage module, they fail to specifically disclose the method further comprising transferring a copy of the movie from a purchase center into said memory component, as recited in the claim.

In an analogous art, Allen discloses a method of high-speed video distribution wherein a copy of a movie is transferred from a purchase center into a memory component (in this case, a VHS tape) (column 3, lines 44-48), for the advantage of providing a convenient means for accessing new or popular movies.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone and Beckett to include transferring a copy of the movie from a purchase center into said memory component, as taught by Allen, for the advantage of providing a convenient means for accessing new or popular movies.

Considering claim 3, the combined methods of Cantone, Beckett, and Allen (as applied above) fail to specifically disclose wherein storing electronically readable movie

further comprises downloading said movie from a remotely located centralized movie database.

Allen further discloses a method of downloading said movie from a remotely located centralized movie database (Allen, column 3, lines 38-40), for the advantage of providing a large, centrally located selection of movies to its customers.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone, Beckett, and Allen to include downloading said movie from a remotely located centralized movie database, as further taught by Allen, for the advantage of providing a large, centrally located selection of movies to its customers.

5. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantone in view of Beckett, as applied to claim 1 above, and further in view of Chung (of record).

Considering claim 5, Cantone and Beckett disclose a movie storage module including an atomic resolution storage memory component (Beckett, paragraph 5). Although Cantone discloses the use of a playback device to selectively recall the movie (column 2, lines 58-62), neither Cantone nor Beckett specifically discloses the device including a personal movie player, as recited in the claim.

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In an analogous art, Chung discloses a personal multimedia player capable of playing back digitized movies (column 1, lines 27-30, column 2, lines 29-35, and MPEG data processing, column 2, line 66 – column 3, line 11), for the advantage of providing a portable means of playing back digital media.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone, Beckett to include a personal movie player, as further taught by Chung, for the advantage of providing a portable means of playing back digital media.

As for claim 8, the combined methods of Cantone and Beckett (as applied above) fail to disclose the step of storing and recalling as being in a broadband frequency format.

Chung discloses a method of storing and recalling said movie content in a compressed, broadband frequency format (see MPEG, column 2, line 35 – column 3, line 11), for the advantage of providing a fast and efficient way of storing and recalling the movie.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone and Beckett to include the step of storing and recalling as being in a broadband frequency format, as taught by Chung, for the advantage of providing a fast and efficient way of storing and recalling data for proper display on a display device.

6. Claims 6, 7, 9, 10, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantone in view of Beckett, as applied to claim 1 above, and further in view of Yamagata.

Considering claim 6, Cantone and Beckett disclose a method of portably storing electronically readable movies through the use of a storage module, however they fail to specifically disclose the storage module as having a communication interface and having a power supply, as recited in the claim.

In an analogous art, Yamagata discloses a storage device (100) containing a communications interface (6) and being coupled to a power supply (power supply circuit 150 and battery 130), for the purpose of transferring data between an external unit and the device (column 2, lines 66-68), and for generating power to record and reproduce information (column 2, lines 39-40).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone and Beckett to include the storage module as having a communication interface and having a power supply, as taught by Yamagata, for the purpose of transferring data between an external unit and the memory device, and for generating power to record and reproduce information in a memory storage device, respectively.

As for claim 7, the combined system of Cantone, Beckett, and Yamagata (as applied above) fail to specifically disclose wherein the memory component further



comprises controller logic for operating the storage device and communicating between the memory component and the communications interface, as recited in the claim.

Yamagata further discloses wherein the memory component (100) further comprises controller logic (disk control circuit 9) for operating the storage device and communicating between the memory component and the communications interface (column 2, lines 64-65, column 3, lines 22-26, and column 4, lines 1-4), for the purpose of having the ability to control the read and write operations of the memory device (column 2, lines 64-65, and column 4, lines 1-4).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone and Beckett to include wherein the memory component further comprises controller logic for operating the storage device and communicating between the memory component and the communications interface, as further taught by Yamagata, for the purpose of having the ability to control the read and write operations of the memory device in a communications storage medium.

As for claim 9, Cantone discloses a personal movie storage module comprising a storage device (Cantone, column 2, lines 20-30) capable of storing at least one movie (Cantone, column 3, lines 56-58). Cantone fails to specifically disclose an atomic resolution storage device and a communication interface for communicating to and from the memory components of the storage module, as recited in the claim.

In an analogous art, Beckett discloses an atomic resolution storage memory capable of storing a movie (Beckett, page 1, paragraph 5), for the purpose of providing an ultra-high capacity means to store and recall data from memory of the storage module (page 1, paragraph 5). Beckett fails to specifically disclose an accompanying interface for communication to and from said memory component of the storage module, as recited in the claim.

In an analogous art, Yamagata discloses a system and corresponding method comprising a storage device (100) containing a communications interface (6) and being coupled to a power supply (power supply circuit 150 and battery 130), for the purpose of transferring data between an external unit and the device (column 2, lines 66-68).

Consequently, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone and Beckett to include an interface for communication to and from said memory component of the storage module, as further taught by Beckett, for the purpose of providing an ultra-high capacity means to store and recall data from memory of the storage module in a digital storage device.

It would have further been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone and Beckett to include the storage module as having a communication interface for communicating to and from the memory component of the storage module, as taught by Yamagata, for the purpose of transferring data between an external unit and the memory device in a digital storage device.

As for claim 10, the combined systems of Cantone, Beckett, and Yamagata (as applied above) fail to disclose a controller on the storage device for operating the device and communicating between the memory component and communication interface, as recited in the claim.

Yamagata further discloses wherein the memory component (100) further comprises controller logic (disk control circuit 9) for operating the storage module and communicating between the memory component and the communications interface (column 2, lines 64-65, column 3, lines 22-26, and column 4, lines 1-4), for the purpose of having the ability to control the read and write operations of the memory device (column 2, lines 64-65, and column 4, lines 1-4).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone, Beckett, and Yamagata to disclose wherein the memory component further comprises controller logic for operating the storage module and communicating between the memory component and the communications interface, as further taught by Yamagata, for the purpose of having the ability to control the read and write operations of the memory device in a communications storage medium.

As for claim 15, the combined methods of Cantone, Beckett, and Yamagata (as applied above) fail to disclose said system further comprising a housing enclosing said storage device and the communication interface.

Yamagata further discloses said system further comprising a housing enclosing said storage device and the communication interface (column 4, lines 5-10). As is well known in the art, a housing provides protection for the internal electronics, in this case, the internal storage device and communication interface.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone and Beckett to include a device further comprising a housing enclosing said storage device and the communication interface, as further taught by Yamagata, for the purpose of protecting the internal storage device and interface in a digital storage device.

7. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantone in view of Beckett, and further in view of Yamagata, as applied to claim 9 above, and further in view of Gibson, et al. (Gibson) (of record).

Considering claim 11, although Beckett describes the essentials of the atomic resolution storage device, the combined systems of Cantone, Beckett, and Yamagata fail to disclose the atomic resolution storage device comprising: a micro-fabricated field emitter capable of generating an electron beam current, and a storage medium near the field emitter having a storage area in one of a plurality of states to represent data.

In an analogous art, Gibson discloses an atomic resolution storage device comprising a micro-fabricated field emitter capable of generating an electronic beam (column 2, line 65 – column 3, line 29), and a storage medium near the field emitter and having a storage area in one of a plurality of states to represent data stored in the

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storage area (column 3, lines 1-5), for the purpose of generating an ultra-high density device capable of reading and writing data on an atomic scale.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined systems of Cantone, Beckett, and Yamagata to include the atomic resolution storage device comprising a micro-fabricated field emitter capable of generating an electron beam current, and a storage medium near the field emitter having a storage area in one of a plurality of states to represent data, as taught by Gibson, for the purpose of generating an ultra-high density device capable of reading and writing data on an atomic scale.

As for claim 12, the combined systems of Cantone, Beckett, Yamagata, and Gibson disclose an effect being generated when the electron beam current bombards the storage area, wherein the magnitude is dependent on the state of said storage, and wherein storage data is read by measuring the magnitude of the effect (Gibson, column 5, line 64 – column 6, line 10).

As for claim 13, the combined systems of Cantone, Beckett, Yamagata, and Gibson disclose the atomic resolution storage module further comprising a plurality of storage areas on the storage medium, each storage area in one of a plurality of states to represent information stored in the storage area (Gibson, column 5, line 64 – column 6, line 10); and a micro fabricated mover in the storage device for positioning various areas to be bombarded by the electron beam current (Gibson, column 6, lines 2-10).

As for claim 14, the combined systems of Cantone, Beckett, Yamagata, and Gibson disclose the atomic resolution storage module further comprising a plurality of said field emitters (Gibson, column 2, line 65 – column 3, line 5), with each emitter fabricated by semiconductor micro fabrication techniques capable of generating an electron beam current (Gibson, column 3, lines 5-20), with each emitter space apart, and with each emitter being responsible for a number of storage areas such that said emitters can function in parallel to increase the data rate of the storage device (Gibson, column 3, line 57 – column 4, line 20).

8. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantone in view of Beckett, and further in view of Yamagata, and further in view of Allen.

Considering claim 16, Cantone discloses a portable movie storage system (column 2, lines 20-30) and a movie playback device for storing at least one movie (column 2 lines 22-25), however, Cantone fails to specifically disclose said storage module including an atomic resolution storage device, a communication interface for communicating to and from said storage device, a system further permitting purchasable access to electronically stored movies, a centralized movie database for downloading to multiple points of purchase, and a point-of-purchase center for selectively transferring a copy of a movie to the movie storage module, as recited in the claim.

In an analogous art, Beckett discloses an information storage device consisting of an atomic resolution storage component (page 1, paragraph 5) and wherein said storage device is capable of storing digitized media (see terabit, paragraph 5), for the advantage of providing a compact and low-power method of storing and recalling digitized media (paragraphs 5-6).

In an analogous art, Yamagata discloses a system and corresponding method comprising a storage device (100) containing a communications interface (6) and being coupled to a power supply (power supply circuit 150 and battery 130), for the purpose of transferring data between an external unit and the device (column 2, lines 66-68).

In an analogous art, Allen discloses a system allowing purchasable access to electronically stored movies (column 3, lines 34-40); a centralized movie database for downloads to multiple points-of-purchase (column 2, lines 22-24); and a point-of-purchase center for selectable transferring a copy of the selected movie from said database to the movie storage module memory component (column 2, lines 44-48), for the advantage of allowing the convenient purchase of a large, centrally located selection of movies to a multitude of customers.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Cantone whereby said storage module includes an atomic resolution storage memory and a communication interface for communicating to and from said storage device, as taught by Beckett, for the advantage of providing a compact and low-power method of storing and recalling digitized media.

It would have further been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone and Beckett to include the storage module as having a communication interface for communicating to and from the memory component of the storage module, as taught by Yamagata, for the purpose of transferring data between an external unit and the memory device in a digital storage device.

It would have further been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone, Beckett, and Yamagata to further include a system permitting purchasable access to electronically stored movies; a centralized movie database for download to multiple points-of-purchase; and a point-of-purchase center for selectable transferring a copy of the selected movie from said database to the movie storage module memory component, as taught by Allen, for the advantage of allowing the convenient purchase of a large, centrally located selection of movies to a multitude of customers.

Considering claim 18, the combined methods of Cantone, Beckett, Yamagata, and Allen, further disclose a system wherein the network and corresponding receiver of the centralized movie database and point-of-purchase-center comprise a satellite network and receiver (Allen, column 5, lines 28-33).



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9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cantone in view of Beckett, and further in view of Yamagata, and further in view of Allen, and further in view of Chung.

As for claim 17, the combined systems of Cantone, Beckett, Yamagata, and Allen disclose a personal movie storage module comprising an atomic storage memory device (Beckett, paragraph 5), a means for transferring a movie to said device (Allen, column 3, lines 44-48), and a movie playback device for playing back said movie (Cantone, column 2, lines 20-30).

Cantone, Beckett, Yamagata, and Allen fail to specifically disclose a system wherein the playback device is a personal portable playback device.

Chung discloses a system wherein the playback device is a personal portable playback device (Chung, column 2, lines 24-30), for the advantage of being able to easily transport the playback device and view the stored movie from a variety of locations.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined methods of Cantone, Beckett, Yamagata, and Allen to further include a system wherein the playback device is a personal portable playback device, as taught by Chung, for the advantage of being able to easily transport the playback device and view the stored movie from a variety of locations.

### ***Conclusion***

10. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

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Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mitchell J Corbett whose telephone number is (703) 305-8982. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on (703) 305-4755. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-HELP.

Mitchell Corbett  
Patent Examiner  
AU 2614

MJC

  
CHRIS GRANT  
PRIMARY EXAMINER